

WHAT IS CLAIMED IS:

1. An information record apparatus for adjusting power of write light onto an optical information record medium, the information record apparatus comprising:

    a light source for emitting the write light having a predetermined power;

    a power adjustment section for adjusting the emission power of the write light;

    a write section for applying the write light emitted from the light source to record a record pit in the optical information record medium;

    a feature extraction section for optically reproducing a record state containing the record pit from the optical information record medium to produce a first signal waveform, the feature extraction section extracting feature information of the record state from the first signal waveform; and

    a control section for controlling the power adjustment section to set a plurality of write light each having a different emission power based on the feature information provided by the feature extraction section,

    wherein after the power adjustment section sets the plurality of write light,

        the write section records a plurality of record pits in the optical information record medium by applying the plurality of write light;

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the feature extraction section optically reproduces a plurality of record states containing the record pits correspondingly to produce a second signal waveform, and extracts the feature information of the record state for each of the record pits based on the second signal waveform; and

the control section determines that power of write light corresponding to information closest to or almost equal to target feature information, of the feature information of the record state for each of the record pits is appropriate write light power, and controls the power adjustment section to adjust the emission power of the write light.

2. The information record apparatus as claimed in claim 1 wherein the write section records a plurality sets of record pits in the optical information record medium;

the feature extraction section extracts the feature information of the record state for each of the record pits in the plurality sets based on a signal waveform provided by optically reproducing the record states containing the plurality sets of the recorded record pits; and

the control section finds average feature information of the record state for each of the record pits in the plurality sets, determines that power of write light corresponding to

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information closest to or almost equal to target feature information, of the average feature information is appropriate write light power, and controls the power adjustment section to adjust the emission power of the write light.

3. The information record apparatus as claimed in claim 1 wherein the predetermined power of the write light is set based on characteristic information recorded on the optical information record medium in advance.

4. The information record apparatus as claimed in claim 1 wherein the control section sets the plurality of write light based on a difference between the feature information and the target feature information.

5. The information record apparatus as claimed in claim 1 wherein the feature information and the target feature information are  $\beta$  values.

6. The information record apparatus as claimed in claim 1 wherein the feature information and the target feature information are values of asymmetry of the first or second signal waveform provided by optically reproducing.

7. The information record apparatus as claimed in

claim 1 wherein the feature information and the target feature information are modulation depths.

8. The information record apparatus as claimed in claim 1 wherein the optical information record medium is CD-R.

9. The information record apparatus as claimed in claim 8 wherein the write section records in a count area provided in the CD-R by applying write light of fixed power and records a plurality of record pits at in a test area of the CD-R by applying a plurality of write light each different in power.

10. An information record method for adjusting power of write light onto an optical information record medium, the information record method comprising the steps of:

applying write light having specific power or predetermined power emitted from a light source to record a record pit in the optical information record medium;

optically reproducing a record state containing the record pit to produce a first signal waveform;

extracting feature information of the record state based on the first signal waveform;

setting a plurality of write light each having a different emission power based on the feature information,

applying the plurality of write light to record a plurality

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of record pits in the optical information record medium;  
optically reproducing a plurality of record states  
containing the record pits to produce a second signal waveform;  
extracting the feature information of the record state  
for each of the record pits based on the second signal waveform;  
determining that power of write light corresponding to  
information closest to or almost equal to target feature  
information, of the feature information of the record state  
for each of the record pits is appropriate write light power;  
and  
adjusting the power of the write light.

11. An information record medium recording a control  
information program to be executed in a computer, the control  
information program comprising:

applying write light having specific power or  
predetermined power emitted from a light source to record a  
record pit in the optical information record medium;  
optically reproducing a record state containing the  
record pit to produce a first signal waveform;  
extracting feature information of the record state based  
on the first signal waveform;  
setting a plurality of write light each having a different  
emission power based on the feature information,  
applying the plurality of write light to record a plurality

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of record pits in the optical information record medium;  
optically reproducing a plurality of record states  
containing the record pits to produce a second signal waveform;  
extracting the feature information of the record state  
for each of the record pits based on the second signal waveform;  
determining that power of write light corresponding to  
information closest to or almost equal to target feature  
information, of the feature information of the record state  
for each of the record pits is appropriate write light power;  
and  
adjusting the power of the write light.